

FINAL REGULATORY FLEXIBILITY ANALYSIS**CHAPTER 11**

11.1 INTRODUCTION

The Regulatory Flexibility Act (RFA) requires Federal regulatory agencies to examine the impacts of proposed and existing rules on small businesses, small organizations, and small governmental jurisdictions. The RFA requires that agencies develop an Initial Regulatory Flexibility Analysis (IRFA) and a Final Regulatory Flexibility Analysis (FRFA). These analyses evaluate the impact that the regulatory alternatives under consideration would have on small entities and examine ways to minimize these impacts. Although the RFA does not require that the alternative with the least impact on small entities be selected, it does require that the expected impacts be adequately characterized.

In accordance with the RFA, this FRFA evaluates the modifications to the Atlantic Large Whale Take Reduction Plan (ALWTRP) that the National Marine Fisheries Service (NMFS) is considering. The FRFA addresses the following issues:

- The objectives and legal basis of the proposal to revise the ALWTRP;
- The problem addressed by the ALWTRP;
- The provisions included in the regulatory alternatives under consideration, and how NMFS considered public comment in reducing the preferred alternative's impact on small entities;
- The small entities potentially affected by the ALWTRP;
- The impacts of the proposed rules on small entities; and
- Rules that may duplicate, overlap, or conflict with the proposed rule.

11.2 OBJECTIVES AND LEGAL BASIS OF PROPOSED RULES

The revisions to the ALWTRP that NMFS is considering are designed to improve the effectiveness of commercial fishing regulations implemented to conserve and protect three endangered species – North Atlantic right whales (*Eubalaena glacialis*), North Atlantic humpback whales (*Megaptera novaeangliae*), and fin whales (*Balaenoptera physalus*) – thereby

fulfilling NMFS' obligations under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). The need for the proposed revisions is demonstrated by the continuing risk of serious injury and mortality of Atlantic large whales due to entanglement in commercial fishing gear.

The MMPA of 1972 provides protection for species or stocks that are, or may be, in danger of extinction or depletion as a result of human activity. The MMPA states that measures should be taken immediately to replenish the population of any marine mammal species or stock that has diminished below its optimum sustainable level. With respect to any stock or species, the "optimum sustainable population" is the number of animals that will result in the maximum productivity of the stock or species, taking into account the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.

Under the MMPA, the Secretary of Commerce is responsible for the conservation and management of pinnipeds (other than walruses) and cetaceans (including whales). The Secretary of Commerce has delegated MMPA authority to NMFS.

In 1994, Congress amended the MMPA, establishing new provisions to govern the taking of marine mammals incidental to commercial fishing operations.¹ These new provisions include the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, and development and implementation of take reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population due to interactions with commercial fisheries.

Take reduction plans are required for all "strategic stocks." Under the MMPA, a "strategic stock" is a stock: (1) for which the level of direct human-caused mortality exceeds the Potential Biological Removal (PBR) level; (2) that is declining and is likely to be listed under the ESA in the foreseeable future; or (3) that is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA.² The immediate goal of a take reduction plan is to reduce, within six months of its implementation, the mortality and serious injury of strategic stocks incidentally taken in the course of U.S. commercial fishing operations to below the PBR levels established for such stocks. The long-term goal of a take reduction plan is to reduce, within five years of its implementation, the incidental mortality and serious injury of strategic marine mammals taken in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate, taking into account the economics of the fishery, the availability of existing technology, and existing state or regional fishery management plans.

Right whales, humpback whales, and fin whales are listed as endangered species under the ESA, and are thus considered strategic stocks under the MMPA. Pursuant to its obligations

¹ As defined in the MMPA, the term "take" means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.

² The Potential Biological Removal (PBR) level is defined in the MMPA as the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock annually while allowing that stock to reach or maintain its optimum sustainable population. Procedures for calculating the PBR level are described in the MMPA.

under the MMPA, NMFS in 1996 established the Atlantic Large Whale Take Reduction Team (ALWTRT), an advisory group empaneled to develop recommendations for reducing the incidental take of large whales in commercial fisheries along the Atlantic Coast. The ALWTRT includes representatives of the fishing industry, state and Federal resource management agencies, the scientific community, and conservation organizations. The purpose of the ALWTRT is to provide guidance to NMFS in developing and amending the ALWTRP to meet the goals of the MMPA with respect to Atlantic large whales.

In addition to the MMPA, the ESA provides a legal foundation for measures to protect right whales, humpback whales, and fin whales. The ESA provides for the conservation of species that are in danger of extinction throughout all or a significant portion of their range, as well as the conservation of the ecosystems on which these species depend.³ The right whale, humpback whale, and fin whale species are all federally-listed as endangered and are therefore subject to protection under the ESA.

Section 7 of the ESA directs all Federal agencies to use their existing authorities to conserve threatened and endangered species and to ensure that their actions do not jeopardize listed species or destroy or adversely modify the critical habitat of those species. When a proposed Federal action may affect an ESA-listed marine species, Section 7 directs that the "Action agency" consult with the Secretary of Commerce; this is referred to as a Section 7 consultation.^{4,5}

To assess impacts on large whale and sea turtle species protected under the ESA, NMFS has prepared Biological Opinions for the continued authorization of Federal fisheries under the Fishery Management Plans (FMPs) for the multispecies, spiny dogfish, and monkfish fisheries, and under Federal regulations for the lobster fishery, amongst others. Section 7 consultations were first initiated for each of these fisheries either at the time the FMP was developed or, in the case of lobster, when a significant amendment (Amendment 5) to the Federal Lobster Management Plan was under consideration. The Northeast multispecies fishery has a long consultation history, including formal and informal Section 7 consultations, beginning with a formal consultation initiated on June 12, 1986. Formal consultation was first initiated for spiny dogfish on August 13, 1999; for monkfish on December 21, 1998; and for lobster on March 23, 1994. Subsequent ESA Section 7 consultations on those fisheries incorporated the ALWTRP as a Reasonable and Prudent Alternative (RPA) to avoid jeopardy to right whales. NMFS reinitiated consultation on May 4, 2000, for the multispecies, spiny dogfish and monkfish gillnet fisheries, and on June 22, 2000, for the lobster fishery, following new whale entanglements resulting in serious injuries to right whales, at least one right whale mortality in gillnet gear, new information

³ "Species," as defined by the ESA, includes any subspecies of fish, wildlife, or plant and any distinct population segment of any vertebrate species which interbreeds when mature.

⁴ The "Action agency" is the Federal agency charged with permitting, conducting or funding the proposed activity serving as the basis for the consultation.

⁵ Federal agencies must consult with the Secretary of the Interior when a proposed action may affect an ESA-listed species under the Department of Interior's purview.

indicating a declining status for western North Atlantic right whales, and revisions to the ALWTRP.

The Biological Opinions from the May/June 2000 Section 7 consultations, finalized June 14, 2001, found that NMFS' authorization of these Federal fisheries, as modified by the ALWTRP requirements in effect at that time, was likely to jeopardize the continued existence of the western North Atlantic right whale. The Biological Opinions identified a set of Reasonable and Prudent Alternatives designed to avoid the likelihood of jeopardy to right whales. These measures included:

- Seasonal Area Management (SAM);
- Dynamic Area Management (DAM);
- An expansion of gillnet gear modification requirements and restrictions to Mid-Atlantic waters and modification of fishing practices in Southeastern waters;
- Continued gear research and modifications; and
- Additional measures that implement and monitor the effectiveness of the RPAs.

These measures were intended, in combination, to reduce the risk of serious injury or mortality of large whales from entanglements in commercial fishing gear, and to minimize adverse impacts if entanglements occur.

Following implementation of the measures described above, entanglements leading to serious injury or death of protected whales, including the North Atlantic right whale, continued to occur. Accordingly, NMFS reinitiated consultation on the continued authorization of a number of fisheries and began to develop modifications to the ALWTRP. At its 2003 meeting, the ALWTRT agreed to manage entanglement risks by focusing first on reducing the risk associated with groundlines, then reducing the risk associated with vertical lines. In October 2007, NMFS issued a final rule that replaced the SAM and DAM programs with broad-based gear modification requirements, including the use of sinking groundline; expanded weak link requirements; additional gear marking requirements; changes in boundaries; seasonal restrictions for gear modifications; expanded exempted areas; and changes in regulatory language for the purposes of clarification and consistency (72 FR 57104, October 5, 2007). The broad-based sinking groundline requirement became fully effective on April 5, 2009. This final rule also incorporated an amendment to the ALWTRP (72 FR 34632, June 25, 2007) that implemented, with revisions, previous ALWTRP regulations by expanding the Southeast U.S. Restricted Area to include waters within 35 nm (64.82 km) of the South Carolina coast, dividing the Southeast U.S. Restricted Area into Southeast U.S. Restricted Areas North and South, and modified regulations pertaining to gillnetting within the Southeast U.S. Restricted Area.

Following implementation of these measures, NMFS and the ALWTRT turned their collective focus to vertical line risk reduction. At the 2009 ALWTRT meeting, the Team agreed

on a schedule to develop a management approach to reduce the risk of serious injury and mortality due to vertical line. As a result of this schedule, NMFS committed to publishing a final rule to address vertical line entanglement by 2014. NMFS also reinitiated consultation on continued authorization of FMPs for a number of fisheries (American lobster; bluefish; spiny dogfish; monkfish; Northeast multispecies; skate; Atlantic mackerel, squid, and butterfish; and summer flounder, scup and Northern black sea bass). These consultations concluded in October 2010. After identifying the steps being taken by NMFS to develop, analyze and implement a vertical line reduction rule, the agency's Biological Opinions concluded that continued operation of the fisheries noted above would be likely to adversely affect, but not jeopardize, the continued existence of right, humpback, and fin whales.

11.3 PROBLEM ADDRESSED BY ALWTRP

Right whales, humpback whales, and fin whales are listed as endangered species under the ESA, and are thus considered strategic stocks under the MMPA. The measures that the ALWTRP requires focus on the conservation of these species, and also benefit minke whales. The current status of these species is summarized below:

- **Right Whale:** The western North Atlantic right whale (*Eubalaena glacialis*) is one of the rarest of all large cetaceans. It is among the most endangered species in the world and is listed as endangered under the ESA. NMFS considers the best estimate of the population of North Atlantic right whales to be approximately 444, well below the optimum sustainable population (OSP).⁶ PBR for this species is currently 0.9 whales per year (Waring et al., 2013).
- **Humpback Whale:** The North Atlantic humpback whale (*Megaptera novaeangliae*) is listed as an endangered species under the ESA. For the Gulf of Maine stock of humpback whales, NMFS estimates a minimum population of 823. PBR for this stock is currently 2.7 whales per year (Waring et al., 2013).
- **Fin Whale:** The fin whale (*Balaenoptera physalus*) is listed as an endangered species under the ESA. Although researchers debate the existence of several distinct subpopulations of this species, NMFS currently treats all fin whales within U.S. waters of the North Atlantic as members of a single population, with an estimated minimum size of 2,817. PBR for this species is currently 5.6 whales per year (Waring et al., 2013).
- **Minke Whale:** The minke whale (*Balaenoptera acutorostrata*) is not listed as endangered or threatened under the ESA. Minke whales in U.S. waters of the North Atlantic are considered part of the Canadian east coast

⁶ The optimum sustainable population of any stock or species is defined as the number of animals that will result in the maximum productivity of the stock or species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element (16 USC 1362(9)).

stock of this species. NMFS estimates a minimum population for this stock of 16,199; PBR is currently 162 whales per year (Waring et al., 2013).

Atlantic large whales are at risk of becoming entangled in fishing gear because the whales feed, travel and breed in many of the same ocean areas utilized for commercial fishing. Fishermen typically leave fishing gear such as gillnets and traps/pots in the water for a discrete period, after which time the nets/traps/pots are hauled and their catch retrieved. While the gear is in the water, whales may become entangled in the lines and nets that comprise trap/pot and gillnet fishing gear. The effects of entanglement can range from no permanent injury to death.

A scarification analysis conducted by the New England Aquarium (Knowlton et al., 2002) found that juvenile right whales are entangled with greater frequency than adults. Juvenile animals may not have sufficient strength to break free from entangling lines, which can lead to serious injury and infection resulting from the animal "growing into" the lines.

A study of right whale and humpback whale entanglements (Johnson et al., 2005) found that in cases where the point of gear attachment was known, right whale entanglements frequently (77.4 percent; 24 of 31 entanglement events) involved the mouth, which may indicate that many entanglements occur while whales are feeding. The study also found that humpback whales are more commonly reported with entanglements in the tail region (53.0 percent; 16 of 30 entanglement events), in cases where the point of attachment was known.⁷ The number of entanglements for which gear type can be identified is too small to detect any trends in the type of gear involved in lethal entanglements. Trap/pot and gillnet gear, however, seem to be the most common, as in 89 percent of the cases the gear was identified as or consistent with trap/pot or gillnet gear (Johnson et al., 2005).⁸ The study confirmed that vertical lines and floating groundlines posed risks for large whales; however, the authors concluded that any type and part of fixed gear is capable of entangling a whale, and several body parts of the whale can be involved.

Exhibit 11-1 summarizes all known serious injury entanglements of right, humpback, fin, and minke whales from 1997 through 2010, the most recent year that data is available for all species. Humpback whales account for the greatest number of serious injury entanglements (35), followed by right whales (11); minke whales account for five, and fin whales account for four.

⁷ In some cases, other parts of the body in addition to the tail may have been entangled.

⁸ According to Johnson et al. (2005), analyses focused on entanglements from which the gear was examined by NMFS gear specialists, as well as other sources considered reliable, but also included entanglements for which the gear type and/or part was identified (e.g., by a fisherman or biologist) but not recovered. In some cases, recovered gear can definitively be traced back to a particular fishery, but in other cases, certain parts of the gear may be recovered that could be considered consistent with gear that is used in a particular fishery. For example, the gear recovered from right whale #3107 consisted of line with a 600-pound weak link, and thus was considered consistent with gear used in the lobster trap/pot fishery. Note that Johnson et al. (2005) have classified this whale's entanglement as lobster trap/pot gear that was set in an unknown location.

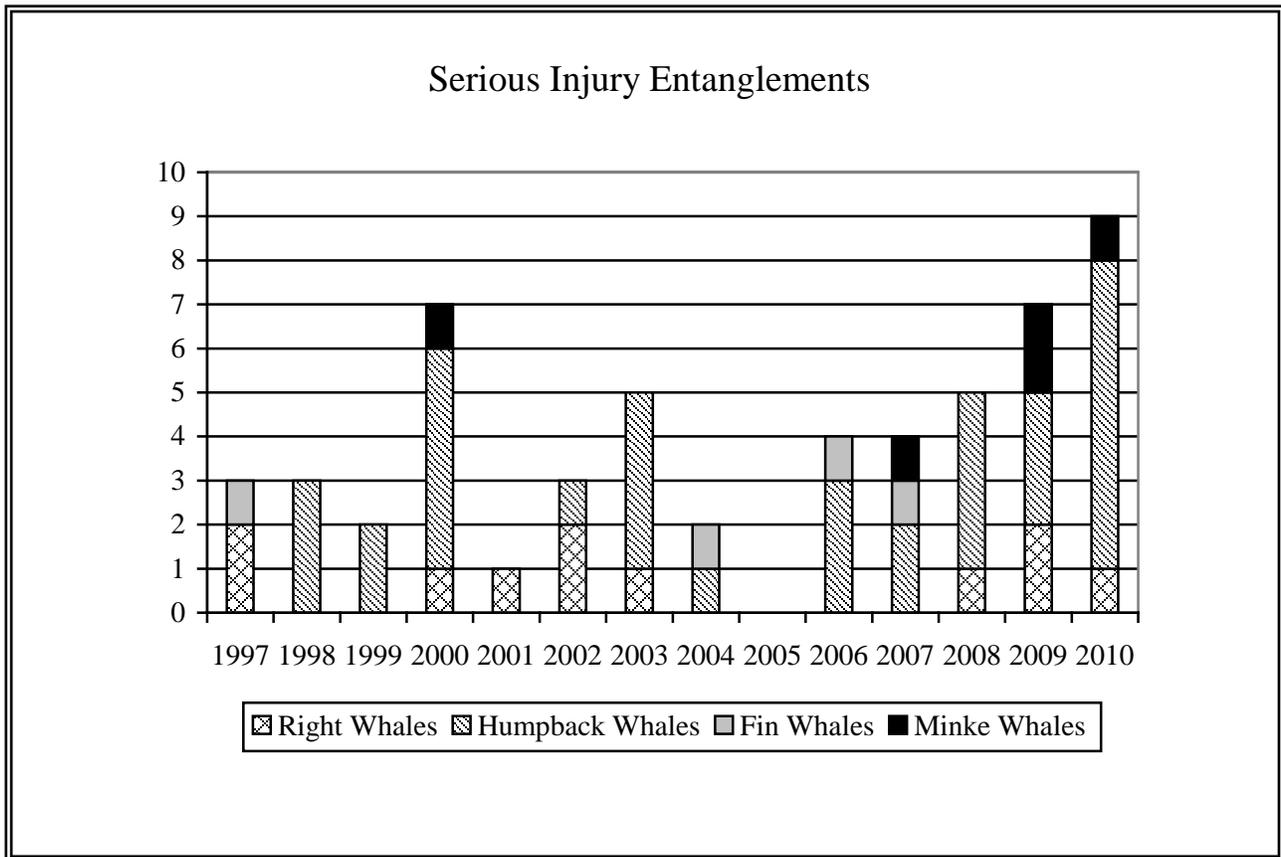
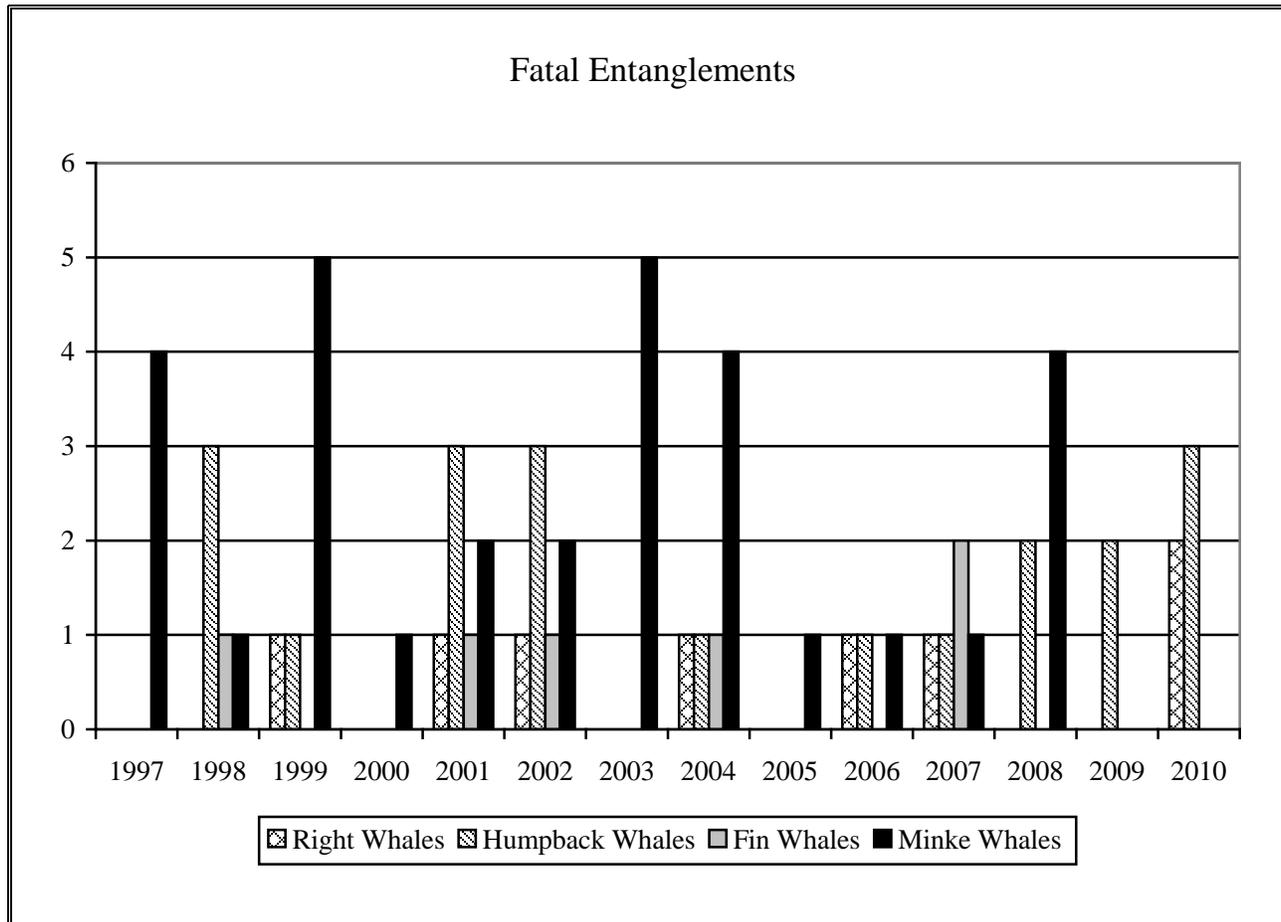
Exhibit 11-1

Exhibit 11-2 presents available data on fatal entanglements of Atlantic large whales from 1997 through 2010, the most recent year that data is available for all species. Minke whales account for the most known entanglement mortalities (31), followed by humpback whales (20), right whales (8), and fin whales (6).

Exhibit 11-2



11.4 REGULATORY ALTERNATIVES

11.4.1 Overview

NMFS has identified seven regulatory alternatives for consideration. The first of these (Alternative 1) is the No Action Alternative, which would make no changes to the ALWTRP. The remaining alternatives propose modifications to the ALWTRP that include some combination of the following:

- Gear Configuration Requirements** – All of the alternatives propose area-specific minimum trawl lengths for trap/pot fisheries in the Northeast; the minimums specified vary by alternative (see below). Additional provisions mandate the use of single traps or pots and specify weak link, vertical line strength, and vertical line composition requirements for trap/pot fisheries in the Southeast; these requirements are the same for all action alternatives.

- **Closures** – Several alternatives would prohibit ALWTRP trap/pot vessels from fishing in designated areas during designated periods (see below).
- **Gear Marking** – Each of the action alternatives includes revised gear marking requirements for vessels subject to the ALWTRP. The proposed gear marking scheme calls for three 12-inch marks per vertical line, adhering to a regional color-coding system. Under Alternatives 2 through 6 (Draft), the requirements would apply to all gear set in non-exempt waters, as well as to gear set in exempt waters of Maine and New Hampshire. Alternative 6 (Preferred) would impose similar requirements, but would not require gear set landward of Maine’s exemption line to be marked.

Exhibit 11-3 provides an overview and comparison of the alternatives. With the exception of Alternative 6 (Preferred), all of the alternatives were considered in NMFS’ Draft Environmental Impact Statement (DEIS).

Exhibit 11-4 describes the gear configuration requirements of the action alternatives in greater detail, showing how they vary. Most notably, Alternatives 3, 5, 6 (Draft), and 6 (Preferred) modify the minimum trawl length restrictions incorporated under Alternative 2; the trawling requirements under Alternative 4 are equivalent to those specified in Alternative 2.

Alternatives 2 through 6 (Preferred) include a set of special requirements for the blue crab and OTP fisheries operating in ALWTRP-regulated waters off the coasts of South Carolina, Georgia, and Florida. In waters off South Carolina and Georgia, the alternatives require affected vessels to fish singles; use weak links with a breaking strength no greater than 600 pounds; use vertical line with a breaking strength no greater than 2,200 pounds; and use vertical line that is free of weights, knots, and splices. The requirements for waters off Florida are similar, but specify 200-pound weak links and the use of sink rope with a breaking strength no greater than 1,500-pounds over the entire length of each vertical line.

As noted, some of the alternatives under consideration would introduce the seasonal closure of designated areas to trap/pot gear. Exhibit 11-5 summarizes the basic parameters of each closure, while Exhibit 11-6 presents a series of maps illustrating the location of the areas in which fishing would be restricted. The objective of these provisions is to reduce the concentration of fishing gear when whales are likely to congregate in the areas designated for closure, thus reducing the risk of entanglement. Chapter 3 provides additional detail on the rationale for each closure.

Exhibit 11-3			
SUMMARY OF PROPOSED ALTERNATIVES			
Alternative	Gear Restrictions	Closures	Gear Marking
Alternative 1 (No Action)	- No change	- None	- No change
Alternative 2	- Area-specific trawling requirements in Northeast - Southeast gear restrictions (weak links, line strength, line composition, singles)	- None	- New system requiring three 12-inch marks per vertical line, adhering to a regional color-coding system - Required in non-exempt waters and ME/NH exempt waters
Alternative 3	- Area-specific trawling requirements with modifications in Maine Zones A-G and exemptions in NH state waters - Southeast: Same as Alternative 2	- CCB Restricted Area	- Same as Alternative 2
Alternative 4	- Same as Alternative 2	- Jordan Basin - Jeffreys Ledge - Massachusetts Restricted Area #1	- Same as Alternative 2
Alternative 5	- Same as Alternative 3	- Jordan Basin - Jeffreys Ledge - Massachusetts Restricted Area #1	- Same as Alternative 2
Alternative 6 (Draft)	- Same as Alternative 3, but with revised trawling requirement in MA state waters (2 traps per trawl rather than 3 traps per trawl)	- Massachusetts Restricted Area #2	- Same as Alternative 2
Alternative 6 (Preferred)	- Same as Alternative 6 (Draft), but with pairs allowed in ME pocket waters and RI state waters; buffer for ME islands; modified exemption for NH state waters	- Massachusetts Restricted Area #2	- Same as Alternative 2, but not required in Maine exempt waters

Exhibit 11-4

SUMMARY OF GEAR RESTRICTION PROVISIONS

Region	Subarea ¹	Component	Alt. 2 ²	Alt. 3	Alt. 4	Alt. 5	Alt. 6 (Draft)	Alt. 6 (Preferred)
North-east	ME Zones A-G: State Waters	Trawl Length	2 to 4	2	= Alt. 2	= Alt. 3	= Alt. 3	= Alt. 3, ¼ mile island buffer
	ME Zones A-G: (3-12 mile)	Trawl Length	5 or 10	N.A.	= Alt. 2	N.A.	N.A.	N.A.
	ME Zones A-G: (12+ mile)	Trawl Length	10 or 20	15	= Alt. 2	= Alt. 3	= Alt. 3	= Alt. 3
	ME Zones A-G: (3-6 mile)	Trawl Length	N.A.	3	N.A.	= Alt. 3	= Alt. 3	= Alt. 3
	ME Zones A-G (6-12 mile)	Trawl Length	N.A.	5 or 10	N.A.	= Alt. 3	= Alt. 3	= Alt. 3
	MA State Waters	Trawl Length	3	= Alt. 2	= Alt. 2	= Alt. 2	2	2
	NH State Waters	Trawl Length	3	Exempt	= Alt. 2	= Alt. 3	= Alt. 3	= Alt. 3 ³
	RI State Waters	Trawl Length	3	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	2
	LMA 1 Other (3-12 mile)	Trawl Length	10	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	LMA 1 Other (12+ mile)	Trawl Length	20	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	LMA OC (3-12 mile)	Trawl Length	10	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	LMA OC (12+ mile)	Trawl Length	20	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	LMA 2 (3-12 mile)	Trawl Length	10	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	LMA 2 (12+ mile)	Trawl Length	20	15	= Alt. 2	= Alt. 3	= Alt. 3	= Alt. 3
	LMA 2/3 Overlap (12+mile)	Trawl Length	20	= Alt. 2	= Alt. 2	=Alt. 2	=Alt. 2	=Alt. 2
LMA 3 (3-12 mile)	Trawl Length	10	= Alt. 2	= Alt. 2	=Alt. 2	=Alt. 2	=Alt. 2	
LMA 3 (12+ mile)	Trawl Length	20	= Alt. 2	= Alt. 2	=Alt. 2	=Alt. 2	=Alt. 2	
South-east	Florida State Waters	Weak links	≤ 200 lbs.	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	
		Vertical Line	Breaking strength ≤ 1,500 lbs., one continuous piece of sinking line	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
		Other	One buoy line with one trap, gear mark	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	Georgia and South Carolina State Waters	Weak Links	≤ 600 lbs.	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
		Vertical Line	Breaking strength ≤ 2,200 lbs., one continuous piece of sinking line	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
		Other	One buoy line with one trap, gear mark	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
	Federal Waters	Weak links	Status quo	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
		Vertical Line	Must be one continuous piece of sinking line	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2
		Other	Must use one buoy line with one trap, gear mark, bring gear back to shore at conclusion of trip	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2	= Alt. 2

Notes:

1. LMA – Lobster Management Area; OC – Outer Cape.
2. Trawls with 5 or fewer traps may have only one endline.
3. Gear set in New Hampshire state waters would be exempt from trawling requirements, but must satisfy existing ALWTRP requirements.

Exhibit 11-5

SUMMARY OF AREA CLOSURE PROVISIONS

Closure	Regulatory Alternative	Closure Period	Size (square miles)
CCB Restricted Area	3	February - April	644
Jordan Basin	4 & 5	November - January	725
Jeffreys Ledge	4 & 5	October - January	607
Massachusetts Restricted Area #1	4 & 5	January - April	2,464
Massachusetts Restricted Area #2	6 (Draft) & 6 (Preferred)	January - April	2,161

Exhibit 11-6

LOCATION OF RESTRICTED AREAS

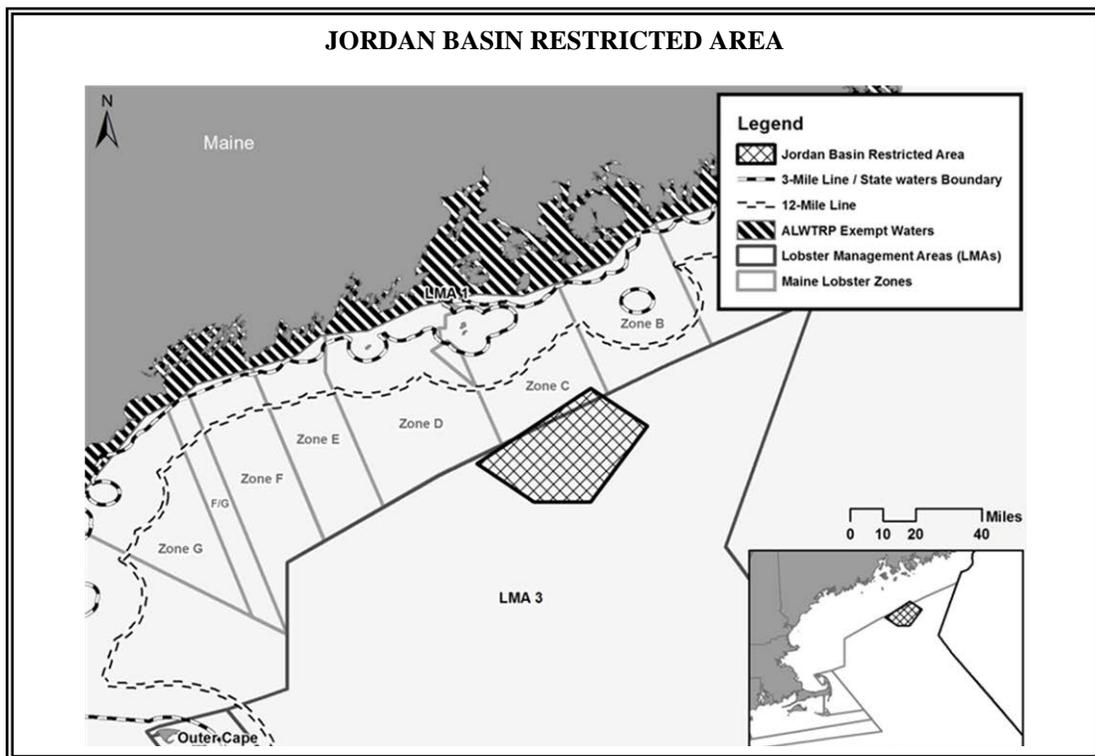
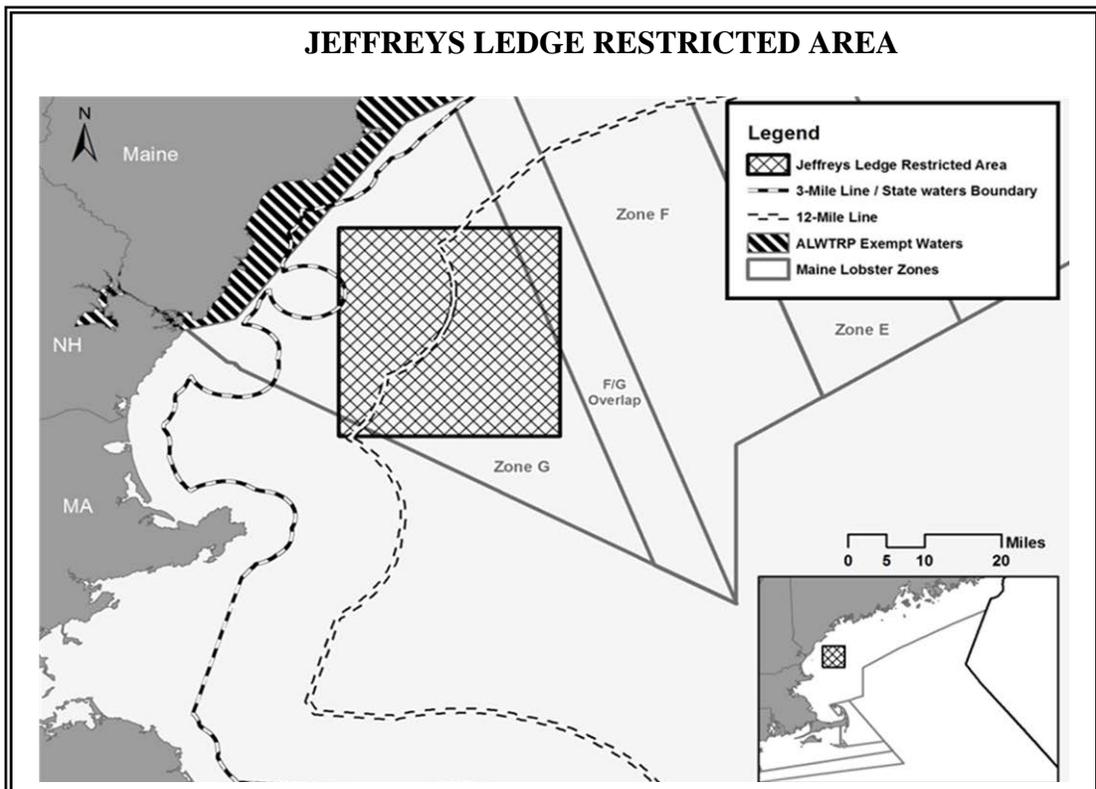
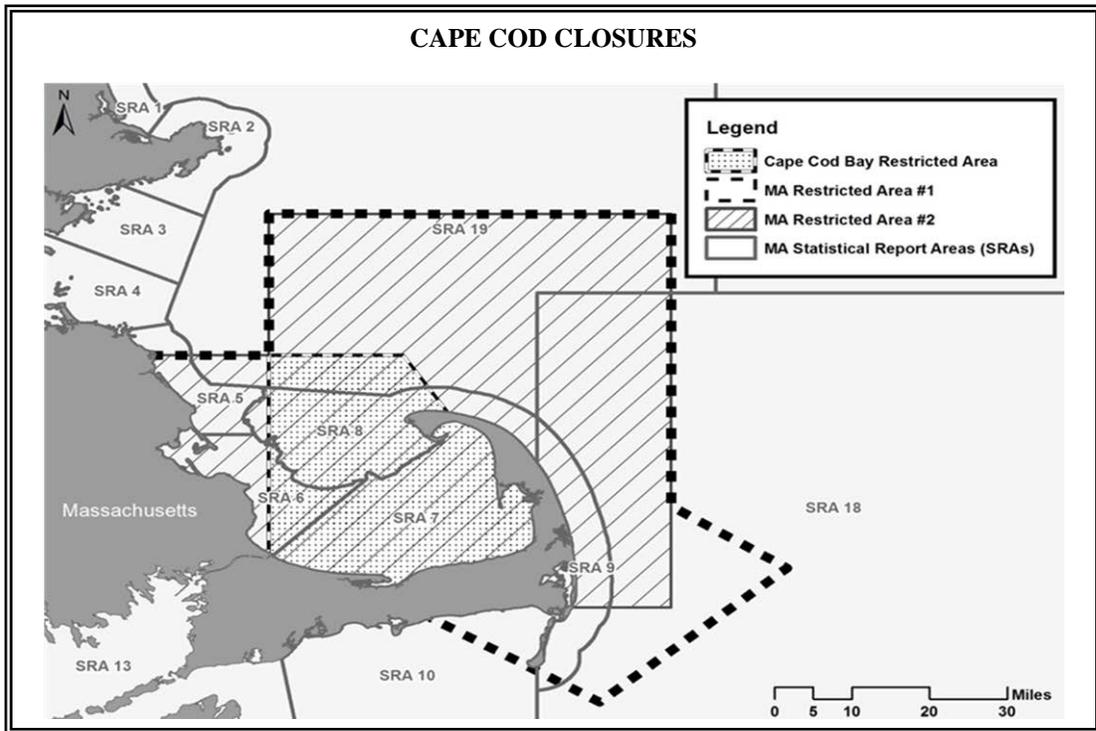


Exhibit 11-6

LOCATION OF RESTRICTED AREAS (continued)



11.4.2 Preferred Alternative

In response to comments received on the DEIS and proposed rule, NMFS formulated a preferred alternative for the FEIS that differs in several respects from Alternative 5, which NMFS identified as its preferred alternative in the DEIS. Specifically, Alternative 6 (Preferred) differs from Alternative 5 in the following ways:

- It maintains the sinking groundline requirement for gear set in New Hampshire state waters that are currently subject to that requirement;
- It imposes no gear marking requirement for waters in Maine that are exempt from all other ALWTRP requirements;
- It specifies a minimum of two traps per trawl in Massachusetts and Rhode Island state waters, rather than three;
- It requires a minimum of two traps per trawl in Maine pocket waters, rather than three;
- It imposes no trawling requirement for trap/pot gear set within a quarter mile of Monhegan, Matinicus, or Ragged Islands;
- It does not incorporate the seasonal closure of Jordan Basin or Jeffreys Ledge; and
- It requires the seasonal closure of Massachusetts Restricted Area #2 rather than Massachusetts Restricted Area #1.

For the most part, the changes in NMFS' proposed regulations respond to comments concerning the impact of the new rules on commercial fishermen. The changes are designed to reduce the economic and social impacts of the new requirements while having a relatively modest impact on the effectiveness of these requirements in achieving the goals of the ALWTRP. This is borne out by the summary of estimated impacts presented in Chapter 8, which indicates that Alternative 6 (Preferred) would achieve nearly as great a reduction in co-occurrence scores as Alternative 5 (an estimated 37 to 38 percent reduction under Alternative 6 (Preferred) vs. a 40 to 42 percent reduction under Alternative 5) at approximately 57 to 70 percent of the estimated cost. Additional information on NMFS' consideration of public comments in developing its preferred alternative is provided below.

11.4.3 Public Comments and NMFS Response

11.4.3.1 Comments during Scoping Process

The scoping efforts conducted for this rulemaking included meetings of the full ALWTRT and ALWTRT subgroups, as well as a series of public meetings held in the summer of 2011 at key locations along the Atlantic coast. The stakeholders engaged through this process recommended a variety of approaches for achieving the goals of the ALWTRP. Chapter 3 of the

EIS summarizes the input they provided, including (1) suggestions that were incorporated into the alternatives analyzed in the EIS, and (2) suggestions that were considered but rejected in the formulation of regulatory alternatives.

11.4.3.2 Comments on the DEIS and Associated IRFA

Volume II of the EIS includes a summary of the comments received on the DEIS and NMFS' response to those comments, highlighting where it has revised the draft analysis or explaining why NMFS believes the issue has been adequately considered. None of the comments received focused specifically on the IRFA presented in the DEIS. Numerous comments, however – particularly those offered by commercial fishermen at public hearings along the Atlantic coast – questioned the cost-effectiveness of Alternative 5, which NMFS identified as its preferred alternative in the DEIS. In addition, both fishermen and state fisheries management agencies raised concerns about the safety, enforceability, or practicality of proposed requirements in certain areas and noted the economic burden they would place on those affected.

The comments on the DEIS have guided formulation of a new preferred alternative for the FEIS. This alternative – Alternative 6 (Preferred) – differs from Alternative 5 in a number of ways. The changes in the proposed regulations are designed to mitigate the economic and social impacts of new ALWTRP requirements without substantially reducing the requirements' overall effectiveness. The major changes relative to NMFS' initial regulatory proposal are as follows:

- Alternative 6 (Preferred) would impose no gear marking requirement for Maine waters that are exempt from other ALWTRP requirements. Maintaining the status quo for those who fish in these areas relieves them of the cost of marking gear used where whales are infrequently sighted. Moreover, the introduction of a unique gear marking scheme for these areas, as proposed under Alternative 5, would raise operational difficulties for fishermen who routinely shift gear between exempt and non-exempt areas; they would either need to remark their gear each time they crossed the exemption line or maintain different sets of line for each area. By removing the gear marking requirement for exempt waters – as suggested, among others, by Maine's Department of Marine Resources, the Downeast Lobstermen's Association, the Island Institute, and the Maine Lobstermen's Association – Alternative 6 (Preferred) eliminates this complexity and reduces the potential burden on affected vessels.
- Alternative 6 (Preferred) specifies a minimum of two traps per trawl in Massachusetts and Rhode Island state waters, rather than three. This change is in response to comments from the Massachusetts Division of Marine Fisheries, the Rhode Island Department of Environmental Management, and others who raised concerns about the safety and operational feasibility of fishing three-trap trawls from small vessels that operate in state waters.

- Alternative 6 (Preferred) also specifies a minimum of two traps per trawl in Maine pocket waters, rather than three. This change responds to comments from Maine’s Department of Marine Resources, the Downeast Lobstermen’s Association, and the Maine Lobstermen’s Association concerning the practicality of enforcing a different standard (i.e., a minimum of three traps per trawl) in these waters, which are small areas of the U.S. Exclusive Economic Zone that lie between but not within Maine state waters. Chapter 3 illustrates the location of these areas.
- Alternative 6 (Preferred) imposes no trawling requirement for trap/pot gear set within a quarter mile of Monhegan, Matinicus, or Ragged Islands. This change is in response to comments from Maine’s Department of Marine Resources, the Downeast Lobstermen’s Association, the Island Institute, and the Maine Lobstermen’s Association, all of whom raised concerns about the safety and operational feasibility of employing trawls in these waters, particularly for those fishing from small boats.
- Alternative 6 (Preferred) does not incorporate the seasonal closure of Jordan Basin or Jeffreys Ledge, responding to comments from the Maine Department of Marine Resources, New Hampshire Fish and Game Department, and Massachusetts Division of Marine Fisheries, among others, who questioned the cost-effectiveness of these measures and noted the substantial burden they would place on the vessels they would displace.
- Alternative 6 (Preferred) requires the seasonal closure of Massachusetts Restricted Area #2 rather than Massachusetts Restricted Area #1, thus leaving slightly more than 300 square miles of ocean south and east of Cape Cod open to trap/pot gear from January through April. This change in response to comments from the Massachusetts Division of Marine Fisheries, which noted that Massachusetts Restricted Area #1 includes an area of Nantucket Sound where whales are unlikely to be found and no co-occurrence of whales with trap/pot gear has been documented.

11.5 SMALL ENTITIES AFFECTED

The Small Business Administration (SBA) size standards define whether a business entity is small and, thus, eligible for Government programs and preferences reserved for “small business” concerns. Size standards have been established for all for-profit economic activities or industries in the North American Industry Classification System (NAICS). The SBA defines a small business in the commercial fishing sector as a firm with receipts (gross revenues) of up to \$3.5 million. Processing facilities (e.g., canning, curing, freezing) are considered small businesses if they employ 500 or fewer individuals. For fish and seafood wholesalers, a small business is defined as one that employees 100 or fewer employees. As such, virtually all fishing and most wholesale and processing operations in the eastern U.S. are small businesses.

11.5.1 Fishing Operations

The ALWTRP governs fishing operations that set fishing gear in ways that place fishing line (e.g., buoy lines) in the water column, thereby creating the potential for whale entanglements. The fisheries of primary concern that are affected by the ALWTRP include the American lobster trap/pot fishery; the blue crab trap/pot fishery; OTP fisheries such as red crab and Jonah crab; and gillnetting operations. A detailed description of each of the fisheries can be found in Chapter 4 of this EIS. Exhibit 11-7 summarizes the number of vessels in each of the affected fisheries subject to regulation under each management alternative. As shown, the analysis estimates that Alternatives 2 through 6 (Draft) would affect more than 6,000 commercial fishing vessels (i.e., small businesses in the harvest sector), while Alternative 6 (Preferred) would affect approximately 4,000 vessels. The overwhelming majority of these vessels participate in the lobster trap/pot fishery. Chapter 6 describes the data sources and methodology used to derive these estimates in greater detail.

Exhibit 11-7						
NUMBER OF VESSELS AFFECTED BY NEW REQUIREMENTS, BY FISHERY						
Regulatory Provisions	Regulatory Alternative	Fishery				Total
		Lobster Trap/Pot	Other Trap/Pot	Blue Crab	Gillnet	
Gear Configuration	Alternative 1 (No Action)	0	0	0	0	0
	Alternative 2	1,679	139	0	0	1,817
	Alternative 3	1,256	136	0	0	1,392
	Alternative 4	1,695	139	0	0	1,834
	Alternative 5	1,263	136	0	0	1,400
	Alternative 6 (Draft)	1,228	136	0	0	1,364
	Alternative 6 (Preferred)	1,221	136	0	0	1,357
Closures	Alternative 1 (No Action)	0	0	0	0	0
	Alternative 2	0	0	0	0	0
	Alternative 3	16	0	0	0	16
	Alternative 4	184	0	0	0	184
	Alternative 5	184	0	0	0	184
	Alternative 6 (Draft)	109	0	0	0	109
	Alternative 6 (Preferred)	109	0	0	0	109
Gear Marking	Alternative 1 (No Action)	0	0	0	0	0
	Alternative 2	5,300	282	48	499	6,129
	Alternative 3	5,300	282	48	499	6,129
	Alternative 4	5,300	282	48	499	6,129
	Alternative 5	5,300	282	48	499	6,129
	Alternative 6 (Draft)	5,300	282	48	499	6,129
	Alternative 6 (Preferred)	3,186	274	48	498	4,006
All	Alternative 1 (No Action)	0	0	0	0	0
	Alternative 2	5,300	282	48	499	6,129
	Alternative 3	5,300	282	48	499	6,129
	Alternative 4	5,300	282	48	499	6,129
	Alternative 5	5,300	282	48	499	6,129
	Alternative 6 (Draft)	5,300	282	48	499	6,129
	Alternative 6 (Preferred)	3,186	274	48	498	4,006

Note: Values may not sum to the totals shown due to rounding.

Although the analysis indicates that the alternatives under consideration could affect several thousand vessels, only a subset of these vessels is likely to be substantially affected. The economic analysis estimates the costs of gear marking to be relatively minor (see Chapter 6 for a detailed discussion of the costs of gear marking). The costs of compliance with gear conversion and closure requirements, however, may be substantial. As such, the analysis does not anticipate that blue crab or gillnet vessels will be substantially affected by the regulations. A subset of participants in the lobster fishery and, to a lesser extent, other trap/pot fisheries will bear the greatest regulatory burden.

11.5.2 Other Small Entities

In addition to fishing operations, the introduction of new regulations under the ALWTRP could potentially affect seafood dealers and processors. Seafood dealers include wholesale businesses that purchase fish at the dock and distribute it to processors and retailers. Because ALWTRP regulations affect fisheries that land a variety of species, the types of processing facilities that may be affected are diverse, and include operations that fillet, freeze, package, and otherwise prepare seafood. Effects on dealers and processors would be significant to the extent that compliance with the ALWTRP influences the quantity of lobster, crabs and fish landed.

As Chapter 6 discusses in detail, the economic impact analysis assumes that implementation of all action alternatives would result in an overall reduction in lobster landings. This effect is due to two factors:

- A reduction in catch per trap resulting from the use of longer trawls; and
- Reduced effort or relocation to less productive fishing grounds during seasonal closures.

Exhibit 11-8 summarizes the number of dealers and processors potentially affected by the proposed changes in ALWTRP requirements. Because the requirements that may lead to harvest reductions (i.e., gear modifications and seasonal closures) are limited to the Northeast region, identification of the number of potentially affected dealers and processors is limited to those located in that region. As shown, the analysis suggests that 428 dealers and 64 processors could be affected by the changes to the ALWTRP that NMFS is considering.

In addition to dealers and processors, revisions to ALWTRP requirements could potentially affect other small entities in the regional economy (to the extent that landings are reduced). These include small seafood retailers, fishing gear manufacturers and suppliers, and marina operators. Because data on these sectors are not readily available, the analysis does not examine them in detail.

Exhibit 11-8			
NUMBER OF DEALERS AND PROCESSING OPERATIONS POTENTIALLY AFFECTED BY CHANGES IN ALWTRP REQUIREMENTS			
County	State	Number of Dealers Handling ALWTRP Species	Number of Facilities Processing ALWTRP Species
Washington	ME	28	1
Hancock	ME	34	2
Waldo	ME	3	1
Knox	ME	40	1
Lincoln	ME	21	3
Sagadahoc	ME	4	1
Cumberland	ME	37	8
York	ME	19	2
Rockingham	NH	18	2
Essex	MA	40	9
Suffolk	MA	10	14
Norfolk	MA	5	0
Plymouth	MA	32	0
Barnstable	MA	36	4
Nantucket	MA	2	0
Dukes	MA	9	0
Bristol	MA	33	9
Newport	RI	22	0
Bristol	RI	5	0
Providence	RI	0	3
Kent	RI	5	0
Washington	RI	25	4
Total		428	64
Note:			
¹ The analysis estimates the number of dealers based on data from NMFS' Dealer Database as well as NMFS' database on federally permitted seafood processing facilities. The number of dealers is derived by identifying all 2011 landings caught with gear potentially subject to ALWTRP regulations, then calculating the number of unique dealer operations purchasing this catch. The number of processors is calculated by identifying the set of processing facilities that handle any of the species caught in ALWTRP-regulated gear.			

11.6 IMPACTS OF REGULATORY ALTERNATIVES ON SMALL ENTITIES

11.6.1 Impacts of Alternative 6 (Preferred) on Fishing Operations

As noted above, the analysis indicates that the new management measures incorporated under Alternative 6 (Preferred) would affect approximately 4,000 vessels. In most cases, however, the impact would be limited to compliance with new gear marking provisions. The cost of complying with these provisions is relatively minor and unlikely to lead to substantial economic impacts, such as vessel retirement (see Chapter 6 for a detailed discussion of the costs of gear marking). Thus, the analysis does not anticipate a substantial impact on vessels that would be affected solely by the introduction of the new gear marking scheme.

The impact of minimum trawl length requirements and the seasonal closure of Massachusetts Restricted Area #2 to trap/pot gear would be more substantial. The cost of complying with the gear configuration provisions includes the cost of acquiring new gear (e.g., additional groundline), labor costs associated with reconfiguring gear, and associated catch impacts. For vessels affected by the closure, the impact is a loss in revenue, coupled with relocation costs (e.g., fuel, time, and potential catch impacts) for vessels that seek out alternative fishing grounds.

The discussion that follows looks more closely at specific sub-segments of the harvest sector and potential impacts on vessel operators. The discussion focuses on whether the costs of regulatory compliance will adversely affect these small businesses and/or cause changes in fishing effort (e.g., vessel retirement) and landings that may lead to impacts to small businesses in the dealer and processing sectors. To identify potentially hard-hit sectors of the harvest sector, the analysis compares estimates of average vessel compliance costs under Alternative 6 (Preferred) to estimates of average gross revenue per vessel.⁹ Exhibits 11-9 through 11-11 present the results of this analysis. There is no clearly-defined threshold at which annualized costs represent a large enough percent of annual revenues that a vessel operator would cease fishing, or would otherwise suffer economic hardship. For purposes of analysis, however, the exhibits highlight two impact categories:

- **Heavily-Affected Vessels** – Segments of a fishery for which the estimated upper bound compliance costs exceed 15 percent of annual revenues.
- **At-Risk Vessels** – Segments of a fishery for which estimated compliance costs range between 5 and 15 percent of annual revenues.

Vessels that would not be affected by the seasonal closure of Massachusetts Restricted Area #2 are likely to face substantially lower cost burdens than those affected by the closure. In light of this difference, the analysis separately describes the estimated impact of Alternative 6 (Preferred) on these two groups of vessels.

⁹ A summary of the estimated impacts of the other alternatives analyzed is presented later in this chapter.

11.6.1.1 Impacts of Gear Configuration and Gear Marking Requirements

Under Alternative 6 (Preferred), the cost of meeting new gear configuration and gear marking requirements is estimated to be less than 15 percent of gross revenues for all vessels (see Exhibits 11-9 and 11-10). As a result, the impact of these provisions alone would not lead any group of vessels to be designated as heavily affected, either in the low or high cost scenarios. Several groups, however, are identified as at-risk. Under the lower bound scenario, the at-risk category includes OTP vessels fishing in the state waters of Rhode Island or northern Massachusetts (SRAs 1-9). Under the upper bound scenario, the analysis identifies 10 additional groups of vessels as at-risk:

- OTP vessels fishing in Massachusetts SRAs 10 through 13 or SRA 14, as well as OTP vessels fishing in Federal waters of the Northeast region;
- Massachusetts lobster vessels fishing in SRAs 7, 9, and 14;
- Lobster vessels fishing in the non-exempt state waters of Maine Zone E; and
- Lobster vessels fishing in the Federal waters of Maine Zones D, E, and F.¹⁰

The estimate of impacts for these vessels ranges no higher than seven percent of gross revenues in the lower bound scenario and no higher than 12 percent in the upper bound scenario. This impact is substantial; however, the economic burden associated with gear marking and gear reconfiguration provisions alone is not sufficient to place these vessels in the heavily affected category, or to suggest that the impact of complying with these provisions would have a severe impact on socioeconomic conditions in coastal communities.

11.6.1.2 Vessels Affected by Closures

In comparison to Alternative 1, the no action alternative, the analysis estimates that under Alternative 6 (Preferred), 109 lobster vessels would be required to suspend operations or relocate their effort to comply with the seasonal closure of Massachusetts Restricted Area #2. The costs these vessels would incur to comply with the closure would be in addition to the costs attributable to other requirements. The analysis indicates that, in aggregate, these measures would have a substantial impact on the affected vessels (see Exhibit 11-11).

¹⁰ It is important to recognize that the estimate of impacts presented for each group of vessels is limited to the costs and revenues associated with gear being fished in a specific location. In practice, vessels may fish in multiple locations. Thus, the estimated cost of compliance as a percentage of revenue does not necessarily represent the overall burden on a particular vessel; instead, it represents the impact on that vessel for the portion of its effort based in a given area. Similarly, the estimate of revenues employed in the analysis does not necessarily represent a vessel's total revenues; it simply represents the revenues derived from effort in a particular area.

- As a lower bound, the analysis assumes that the vessels affected by the closure would be able to relocate their gear and continue to operate in other areas while the closure remains in effect. Under this scenario, the annual cost of compliance is estimated to range from 4.8 to 12.4 percent of the affected vessels' average annual gross revenue. The results suggest that most of those affected would face a cost burden that would place them in the at-risk category (i.e., annualized compliance costs ranging from 5 to 15 percent of annual revenues).
- As an upper bound, the analysis assumes that the affected vessels would suspend operations and forgo the revenue (net of operating cost savings) on the catch they otherwise would have landed. In this case, the annual cost of compliance is estimated to range from 8.8 to 20.4 percent of the affected vessels' average annual gross revenue. The impact on most of those that would be displaced is estimated at greater than 15 percent – above the threshold specified for “heavily affected” vessels – suggesting the potential for some vessels to cease fishing entirely.

Exhibit 11-9

**COMPARISON OF VESSEL COMPLIANCE COSTS TO GROSS REVENUES UNDER ALTERNATIVE 6 (PREFERRED):
GEAR MARKING AND RECONFIGURATION – LOBSTER VESSELS**

Waters	State	Zone/Area	Number of Vessels Affected ¹	Lower Bound Annualized Compliance Costs ²	Upper Bound Annualized Compliance Costs ²	Average Annual Gross Revenue	Lower Bound Cost as a Percent of Revenue	Upper Bound Cost as a Percent of Revenue
At-Risk Vessels								
Federal	ME	E	98	\$807	\$1,885	\$23,713	3.4%	8.0%
State	MA	14	27	\$449	\$883	\$14,144	3.2%	6.2%
State	MA	9	42	\$1,569	\$3,122	\$50,386	3.1%	6.2%
State	MA	7	67	\$1,242	\$2,467	\$40,106	3.1%	6.2%
Federal	ME	D	147	\$516	\$2,300	\$39,030	1.3%	5.9%
Federal	ME	F	143	\$448	\$1,350	\$23,373	1.9%	5.8%
State	ME	E	51	\$838	\$1,553	\$28,000	3.0%	5.5%
Other Vessels								
Federal	ME	B	103	\$390	\$1,544	\$31,250	1.2%	4.9%
Federal	ME	C	105	\$425	\$2,141	\$44,102	1.0%	4.9%
Federal	ME	G	155	\$95	\$1,494	\$41,500	0.2%	3.6%
State	ME	D	165	\$747	\$1,276	\$42,584	1.8%	3.0%
State	MA	S. Cape (10-13)	37	\$214	\$383	\$13,410	1.6%	2.9%
State	ME	B	59	\$281	\$467	\$22,489	1.3%	2.1%
Federal	ME	A	184	\$(330)	\$783	\$43,017	-0.8% ³	1.8%
Federal	Other	LMA OC Other	15	\$403	\$2,114	\$122,471	0.3%	1.7%
State	ME	F	29	\$472	\$771	\$47,202	1.0%	1.6%
State	ME	G	48	\$314	\$510	\$33,086	1.0%	1.5%
State	ME	C	175	\$531	\$793	\$53,513	1.0%	1.5%
Federal	Other	LMA 2 Other	113	\$190	\$924	\$64,740	0.3%	1.4%
State	MA	8	30	\$310	\$570	\$46,542	0.7%	1.2%
State	MA	6	70	\$256	\$444	\$38,588	0.7%	1.2%
Federal	Other	LMA 1 Other	267	\$85	\$498	\$45,131	0.2%	1.1%
State	ME	A	132	\$75	\$223	\$30,100	0.2%	0.7%
State	MA	3	119	\$146	\$230	\$35,128	0.4%	0.7%
State	RI	All	74	\$122	\$184	\$28,477	0.4%	0.6%
State	MA	5	78	\$139	\$216	\$34,008	0.4%	0.6%
State	MA	1	29	\$114	\$170	\$29,193	0.4%	0.6%
State	MA	2	158	\$129	\$189	\$38,622	0.3%	0.5%

Exhibit 11-9

**COMPARISON OF VESSEL COMPLIANCE COSTS TO GROSS REVENUES UNDER ALTERNATIVE 6 (PREFERRED):
GEAR MARKING AND RECONFIGURATION – LOBSTER VESSELS**

Waters	State	Zone/Area	Number of Vessels Affected¹	Lower Bound Annualized Compliance Costs²	Upper Bound Annualized Compliance Costs²	Average Annual Gross Revenue	Lower Bound Cost as a Percent of Revenue	Upper Bound Cost as a Percent of Revenue
State	MA	4	141	\$124	\$190	\$52,792	0.2%	0.4%
State	NH	All	134	\$81	\$81	\$32,589	0.2%	0.2%
Federal	Other	LMA 3	66	\$79	\$80	\$381,295	0.0%	0.0%

Notes:

1. Number of affected vessels based on methods discussed in economic impact analysis.
2. This exhibit considers only the costs of compliance attributable to gear marking and reconfiguration requirements. All impacts are measured relative to Alternative 1, the no action alternative.
3. As noted in Chapter 6, the analysis of gear conversion costs results in net cost savings for some groups of vessels. The negative value reported here reflects such savings, which are primarily attributable to a reduction in the number of buoy systems required when trawls are employed. While this is an anomalous result – the introduction of a regulatory mandate is unlikely to lead to a reduction in costs – the value is reported for the sake of both analytic consistency and transparency.
4. Affected groups are listed in descending order, based on costs as a percent of gross revenue in the upper bound scenario.
5. No groups are identified as “heavily affected.”

Exhibit 11-10

**COMPARISON OF VESSEL COMPLIANCE COSTS TO GROSS REVENUES UNDER ALTERNATIVE 6 (PREFERRED):
GEAR MARKING AND RECONFIGURATION – OTP VESSELS**

Waters	State	Zone/Area	Number of Vessels Affected¹	Lower Bound Annualized Compliance Costs²	Upper Bound Annualized Compliance Costs²	Average Annual Gross Revenue	Lower Bound Cost as a Percent of Gross Revenue	Upper Bound Cost as a Percent of Gross Revenue
At-Risk Vessels								
State	RI	All	57	\$286	\$491	\$4,086	7.0%	12.0%
State	MA	Northern (1-9)	7	\$9,995	\$19,950	\$199,103	5.0%	10.0%
State	MA	S. Cape (10-13)	52	\$4,555	\$9,075	\$121,067	3.8%	7.5%
Federal	Northeast		8	\$5,898	\$14,704	\$199,103	3.0%	7.4%
State	MA	14	38	\$1,042	\$2,049	\$36,197	2.9%	5.7%

Notes:

1. Number of affected vessels based on methods discussed in economic impact analysis.
2. This exhibit considers only the costs of compliance attributable to gear marking and reconfiguration requirements. All impacts are measured relative to Alternative 1, the no action alternative.
3. Affected groups are listed in descending order, based on costs as a percent of gross revenue in the upper bound scenario.
4. No groups are identified as “heavily affected.”

Exhibit 11-11

**COMPARISON OF VESSEL COMPLIANCE COSTS TO GROSS REVENUES UNDER ALTERNATIVE 6 (PREFERRED):
GEAR MARKING, RECONFIGURATION, AND CLOSURES – LOBSTER VESSELS**

Waters	State	Zone/Area	Closure	Number of Vessels Affected ¹	Annualized Gear Reconfiguration and Marking Costs		Annualized Closure Costs		Average Annual Gross Revenue	Lower Bound Total Cost as a Percent of Gross Revenue ²	Upper Bound Total Cost as a Percent of Gross Revenue ²
					Lower Bound	Upper Bound	Lower Bound	Upper Bound			
Heavily Affected Vessels											
Federal	MA	LMA 1 Other	MA Restricted Area #2	71	\$85	\$498	\$5,513	\$8,695	\$45,131	12.4%	20.4%
State	MA	7	MA Restricted Area #2	3	\$1,242	\$2,467	\$3,361	\$5,036	\$40,106	11.5%	18.7%
State	MA	9	MA Restricted Area #2	1	\$1,569	\$3,122	\$3,361	\$5,036	\$50,386	9.8%	16.2%
State	MA	5	MA Restricted Area #2	15	\$139	\$216	\$3,361	\$5,036	\$34,008	10.3%	15.4%
At-Risk Vessels											
State	MA	6	MA Restricted Area #2	14	\$256	\$444	\$3,361	\$5,036	\$38,588	9.4%	14.2%
State	MA	8	MA Restricted Area #2	5	\$310	\$570	\$3,361	\$5,036	\$46,542	7.9%	12.0%
Federal	MA	LMA OC Other	MA Restricted Area #2	1	\$403	\$2,114	\$5,513	\$8,695	\$122,471	4.8%	8.8%

Notes:

- Number of affected vessels based on the average number of full-time equivalent vessels active in the zone/area over the months of the closure, as estimated by the Vertical Line Model.
- This exhibit considers the total costs of compliance for vessels affected by area closures; i.e., costs attributable to closures as well as those associated with gear marking and gear reconfiguration. All impacts are measured relative to Alternative 1, the no action alternative.

11.6.2 Impacts of Alternative 6 (Preferred) on Dealers and Processors

To the extent that changes in ALWTRP regulations reduce overall harvest, small businesses in the dealer and processing sectors may be affected. For Alternative 6 (Preferred), the analysis projects a potential reduction in lobster landings ranging from 474,000 to 1,231,000 pounds per year (see Appendix 7-B). Relative to 2011, when commercial landings of lobster totaled 126,460,000 pounds, this represents a 0.4 to 1.0 percent reduction in annual landings.

Even if the impacts at the high end of the range projected for Alternative 6 (Preferred) are realized, a notable effect on the lobster market is unlikely, particularly in the long run. All else equal, a 1.0 percent reduction in landings would be expected to result in an increase in the price that dealers and processors pay for lobster. The impact on prices would likely be greatest from January through April, when the closure of Massachusetts Restricted Area #2 would be in effect. This increase, however, is likely to be offset by an increase in prices at the wholesale and retail level; to the extent that this occurs, the profits of dealers and wholesalers would be largely unaffected.¹¹ Moreover, the magnitude of the projected impact is considerably less than the typical fluctuation in annual lobster landings; it may also diminish over time, as fishermen adjust and learn to fish trawls more efficiently. Thus, the marginal effect of the regulations would be unlikely to lead to a substantial change in overall market conditions.

In summary, the analysis suggests that the regulations under consideration would be unlikely to have a major impact on landings. Thus, any impact on the dealer or processing sectors is likely to be minimal.

11.6.3 Impacts of Other Alternatives Analyzed

Exhibit 11-12 compares the projected impacts of Alternative 6 (Preferred) on small businesses to those of the other regulatory alternatives analyzed. The following findings are noteworthy:

- The number of vessels affected by gear reconfiguration requirements is greatest under Alternatives 2 and 4 (approximately 1,800 vessels), and is only slightly less under Alternatives 3, 5, 6 (Draft), and 6 (Preferred) (approximately 1,400 vessels). None of the vessels subject solely to these requirements would face compliance costs that qualify them as heavily affected.
- Based on the ratio of compliance costs to gross revenue, the number of vessels identified as heavily affected ranges from zero under Alternatives 2 and 3 to 163 vessels under Alternatives 4 and 5. For the latter two

¹¹ It is important to note that any increase in ex-vessel prices would, at least in theory, help to offset the costs that fishermen would incur in complying with new regulations. Whether this would in fact be the case depends on the extent to which an increase in prices at the retail level would translate to an increase in ex-vessel prices, or would instead be reflected in higher profits elsewhere in the supply chain.

alternatives, the vessels in the heavily affected category are lobster vessels that would be displaced either by the closure of Jeffreys Ledge or the closure of Massachusetts Restricted Area #1. In contrast, under Alternative 6 (Draft) and 6 (Preferred), the analysis identifies 90 vessels as heavily affected; this group consists of lobster vessels that would be displaced by the closure of Massachusetts Restricted Area #2.

- The estimated reduction in landings of lobster is greatest under Alternative 4 (2.1 million pounds per year) and smallest under Alternative 3 (997,000 pounds per year). However, landings reductions under all alternatives represent less than two percent of 2011 total landings. Because the reduction is substantially less than the annual fluctuation in total landings in recent years, adverse impacts on the dealer and processing sectors under any of the alternatives are unlikely.

Exhibit 11-12

SUMMARY OF IMPACTS BY ALTERNATIVE

Parameter	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6 (Draft)	Alternative 6 (Preferred)
Number of Heavily Affected Vessels (Upper Bound Scenario)	0	0	0	163	163	90	90
Impacts on Dealers	None	Minor short-term supply disruptions possible	Minor short-term and seasonal supply disruptions possible				
Impacts on Processors	None	Minor short-term supply disruptions possible	Minor short-term and seasonal supply disruptions possible				

11.7 RULES THAT MAY DUPLICATE, OVERLAP, OR CONFLICT WITH PROPOSED RULE

No duplicative, overlapping, or conflicting Federal rules have been identified.

11.8 REFERENCES

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